CLAIMS

Listing of Claims

1. (Currently Amended) A nitride-based semiconductor light-emitting device, comprising a nitride-based semiconductor light-emitting element chip formed on an electrically conductive substrate, and a submount, solder, and a stem each serving as a mount member identified as a supporting base for mounting the nitride-based semiconductor light-emitting element chip, said submount being made of a material having a thermal conductivity higher ~~highger~~ than that of a material used to form said electrically conductive substrate ~~material~~, wherein

said nitride-based semiconductor light-emitting element chip, in which a nitride-based semiconductor layer and a first electrode are formed in succession on a surface of the electrically conductive substrate and a second electrode having a conductivity type different from that of the first electrode is formed on a rear surface of the electrically conductive substrate, is mounted on the submount by allowing its second electrode side to face the submount and allowing a first solder material to be interposed therebetween, and said submount having said nitride-based semiconductor light-emitting element chip mounted thereon is further mounted on the stem by allowing its submount side to face the stem and allowing a second solder material to be interposed therebetween, and said submount is made of AlN.

2. (Cancelled)

3. (Previously Presented) The nitride-based semiconductor light-emitting device according to claim 1, wherein said first solder material is made of AuSn, and said second solder material is made of one of SnAgCu and In.

4. (Previously Presented) The nitride-based semiconductor light-emitting device according to claim 1, wherein said electrically conductive substrate is an n-type nitride-based semiconductor substrate.

5. (Previously Presented) The nitride-based semiconductor light-emitting device according to claim 1, wherein said second electrode is made by forming on the electrically conductive substrate three layers including a first layer which is a metal layer made of a single layer or a plurality of layers, or a metal layer having a plurality of layers mixed therein and makes it possible to form an ohmic electrode on the electrically conductive substrate, a second layer which is a metal layer serving as a barrier metal and made of a single layer or a plurality of layers, and a third layer which is a metal layer made of a single layer or a plurality of layers and having affinity with said first solder material, in this order.

6. (Previously Presented) The nitride-based semiconductor light-emitting device according to claim 1, wherein said second electrode has a first layer containing at least two types of metal selected from Ti, Hf and Al, a second layer having a layered structure formed by Mo and Pt in this order, and a third layer using Au.

7. (Previously Presented) A method of manufacturing a nitride-based semiconductor light-emitting device, wherein when said second electrode is formed, said electrically conductive substrate is dry-etched as preprocessing to manufacture the nitride-based semiconductor light-emitting device according to claim 1.